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Thirty-one Years of Service  
in the West

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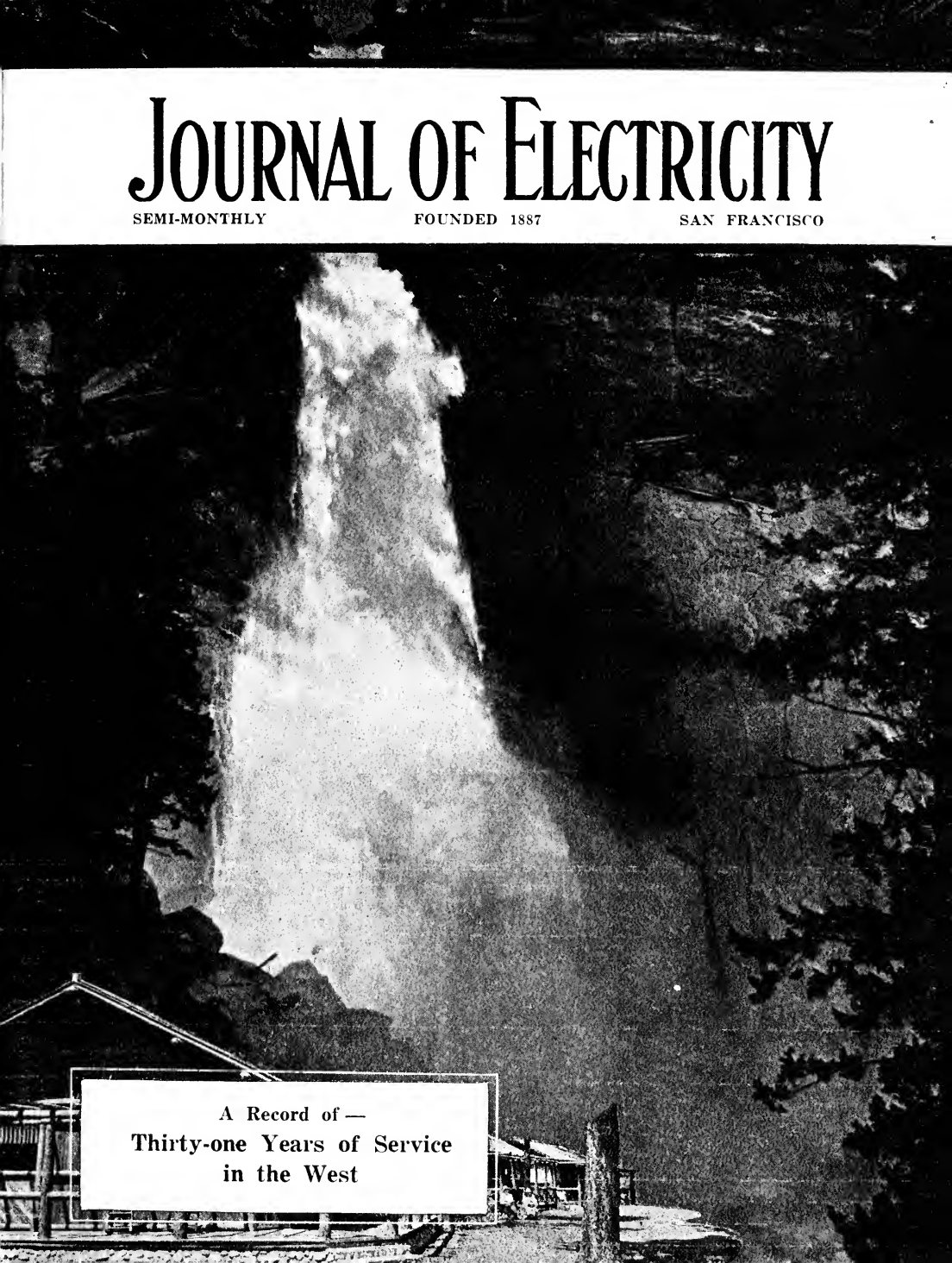
FROM ROBERT SIBLEY PAPERS

# JOURNAL OF ELECTRICITY

SEMI-MONTHLY

FOUNDED 1887

SAN FRANCISCO



A Record of —  
Thirty-one Years of Service  
in the West

# Facts

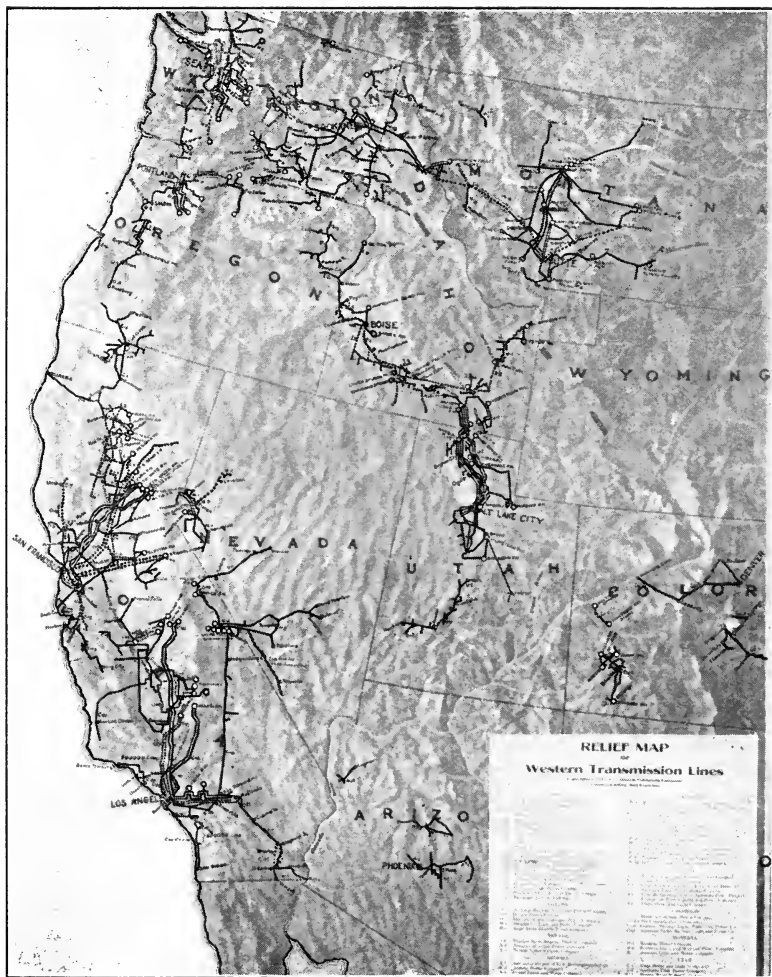
## IN THE GREAT WEST —

	Page
The first central station of the world.....	3
The first hydroelectric plant in America.....	3
The first long distance transmission line.....	4
The most gigantic string of high tension power lines in the world.....	4
The world's largest system of electric generation.....	5
The first and only electrically operated transcontinental railroad.....	8
The most superb and complete electrically operated mine in the world.....	10
The record breaking high voltage hydroelectric transmission.....	10
The greatest dams in the world.....	10
The world's greatest gold dredge.....	12
The longest high voltage submarine cable in the world.....	12
The second longest span of aerial cable.....	12
The most powerful single discharge turbine in the world.....	12
The most powerful high head water turbine in the world.....	12
Over 70% of the undeveloped water power of the nation.....	14

## AND IN SERVING THE WEST the

Journal of Electricity is most emphatically endorsed by —

The Pacific Coast Section, N. E. L. A.....	2
The Northwest Electric Light and Power Association.....	15
The Electrical Contractor-Dealer Associations.....	25
The Electrical Supply Jobber.....	21-23
The Advertiser .....	21-23
The Dean of the Electrical Industry in the West.....	7
The Central Station Manager.....	9
The Long Distance Power Operator.....	11
The Engineer .....	13
The California Electrical Cooperative Campaign.....	19
The Electrical Operator in Agriculture.....	17
From Every Quarter of the West.....	27
Resolutions of Conventions Concerning the Journal of Electricity.....	29
Acknowledgments of War Service.....	31



## THE GREATEST ELECTRICAL CENTER IN THE WORLD

The Pacific and Mountain States, with but 6.7% of the population of the United States, consumes fully 25% of the electric energy consumed by the other 93% of the population of the United States, or \$9.67 per capita as against \$4.40 for the rest of the country—nearly four times greater intensive use. In face of this present intensive development there is still undeveloped in this district twice the amount of undeveloped water power existent in the entire remainder of the nation. The Journal of Electricity is the one medium that will keep you in touch with this development and business opportunity.

# PACIFIC COAST SECTION OF THE NATIONAL ELECTRIC LIGHT ASSOCIATION

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OFFICE OF THE PRESIDENT  
WESTERN STATES GAS & ELECTRIC CO  
STOCKTON, CALIF.

October 22nd, 1918.

Mr. Willis M. Deming, Vice President,  
Journal of Electricity,  
Crossley Building,  
San Francisco, California.

My dear Mr. Deming:

I am advised that you are planning to give unusual publicity to the next Convention of the Pacific Coast Section of the National Electric Light Association, scheduled to be held in Coronado, and that your program includes the publishing of a special edition of the Journal of Electricity.

This announcement can be regarded only as another of the many unselfish exhibits of your splendid and untiring efforts to do something constructive for the Electric Industry of the Pacific Coast and the country at large and as such merits the moral and material support of the electric interests, irrespective of geographical lines.

The potent influence of your publication is the result of a careful chronicling and dissemination of facts concerning the development of the industry to which it is devoted --- and the association of your business and editorial staffs with our activities, Convention or otherwise, contributes in no uncertain way to the intimate and healthy relationship existing between the Journal and its readers.

It may be remarked that you are a "Cover to Cover" magazine, an actuality that reader unconsciously observes and an actuality that the advertiser cannot afford to overlook.

It is my pleasure to give an unqualified endorsement to the Journal of Electricity.

With best wishes,

Very truly yours,

*Samuel Kahn*  
PRESIDENT.

SK-MAL

WHY THE JOURNAL OF ELECTRICITY IS SO  
HEARTILY ENDORSED BY THE GREAT TECHNICAL  
AND COMMERCIAL BODIES OF THE WEST



## Electrical Development in the West

---

The electrical industry is not one of great antiquity. It was only in 1879 that the first central station in the world was built in California; in the same year the incandescent light was developed. The appearance of the retail electrical merchant is largely an affair of this century and the history of his development and organization has been written during the last decade. Very early in the story of this progress the Journal of Electricity took its place and the celebration of the thirty-first anniversary of its founding and the review of its history, is largely a review of the events and development of the West during that period.

**The first central station** of the world was started in June, 1879, by Geo. H. Roe for the California Electric Light Company. That is, San Francisco was the first electrically lighted city, New York not having a central station plant until 1882. This was before the invention of the incandescent lamp which occurred in October of that year, and business was confined to arc lighting. In 1891 a contract was made for the Edison rights in San Francisco, out of which grew the Edison Light & Power Company which was succeeded by the San Francisco Gas & Electric Company, later the present Pacific Gas & Electric Company.

**The first hydro-electric plant** in America was that owned by The Roaring Fork Electric Light & Power Company at Aspen, Colorado. The Aspen Electric Company, as it was called in those days, was organized in 1885, and its plant consisting of one

fifty-light Busch arc dynamo, was put into service during that year. Its power consisted of one Pelton water wheel running under a head of seventy feet.

**The first long distance transmission line in the terms of that day was that of the San Antonio Light and Power Company at Pomona, California, built in**



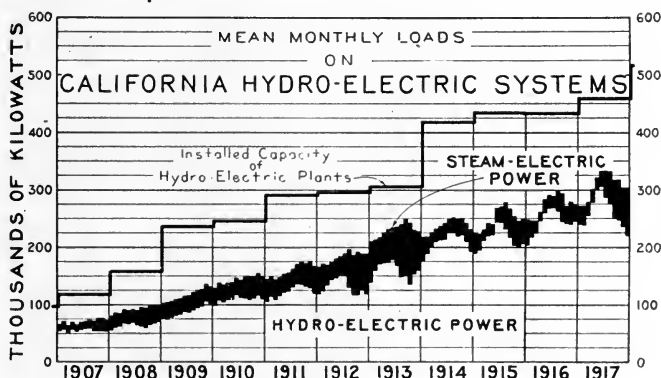
The source of power for the first long distance transmission line in the world—the old San Antonio plant built in 1891. 10,000 volts for 28 miles was the record.

1891, which transmitted 10,000 volts for 28 miles. This was the world's record of twenty-seven years ago for both high voltage and long distance and it was heralded the world over as a great achievement. Today the record for long distance in transmission is held by the Yuma-Wonder line of the Southern Sierras Power Company, which carries 100,000 volts for 830 miles. The Big Creek Line of the Southern California Edison Company transmits 150,000 volts for 275 miles, breaking the record for high voltage.

**The most gigantic string of high tension power lines in the world—from Harlowton, Montana, on**



westward through Spokane, Seattle, Portland, San Francisco, Los Angeles and to San Diego on the Mexican border in the south, with but five small gaps, a possible chain of interconnected power feeding an empire greater than France, Italy, England and Germany combined. Indeed, an empire so vast and a total length of transmission so long as to cover in one stretch of transmission lines a distance far



THE GROWTH OF POWER LOADS IN CALIFORNIA

The first hydro plant was established in 1892 with a capacity of 480 kw. In 1893 another was added, two in 1895, three in '96 and so on up to 1907 when this diagram commences, when there were 54 plants with a capacity of 122,265 kw.

greater than from Petrograd to Vladivostok—6000 miles. These power lines are shown in full detail upon a most comprehensive map on the first page of this booklet.

**The world's largest systems of electric generation**—The giant proportions to which electric generation has advanced may be strikingly gleaned from a comparative statement of the annual output of fifty of the largest hydroelectric companies on the American continent. Once again, due to the present

joint operation of three vast hydroelectric companies in central California, the West is seen to have within its confines a system of electric generation that overtops any other system of hydroelectric or steam electric generation in the world. The companies of the West, which appear in the list below, are printed in black type in the order in which they appear on this list:

Pacific Gas & Electric Company	}	1,500,408,765
Great Western Power Company		
Sierra & San Francisco Power Company		
Commonwealth Edison Company.....		1,488,080,000
Niagara Falls Power Company.....		1,188,221,770
Ontario Power Co. & United Electric Light & Power Co.....		954,913,584
Montana Power Company .....		947,732,014
Montreal Light, Heat & Power Company.....		946,832,817
Hydraulic Power Company .....		871,563,138
Toronto Power Company .....		800,638,000
Southern California Edison Company.....		794,687,405

Nowhere else in the world has the method electrical taken firmer hold of the populace or do greater possibilities for increased development of hydroelectric power exist. Interesting deductions showing this most favorable situation in the West, as compared with the remaining parts of the United States, may be gleaned from central station data that appeared in the Electrical World June 1 and March 23, 1918. Based upon the data thus given, the total central station income and total power generated in the United States from April, 1917, to March, 1918, inclusive, appears to be in round numbers as follows:

**ANNUAL CENTRAL STATION REVENUE (APRIL, 1917-MARCH, 1918)**

New England States.....	\$ 55,062,900	
Atlantic States .....	182,524,700	
Central States .....	173,436,200	\$411,023,800
Pacific Mountain States.....		64,834,400
Total Revenue,		\$475,858,200

## Pacific Gas and Electric Company

443 Battery Street

San Francisco, California

John A. Britton

Vice President & General Manager

July  
thirtieth  
1918.

Mr. W. M. Dening,  
Vice President and Business Manager,  
Journal of Electricity,  
Croesley Building, San Francisco.

Dear Sir:-

It gives me pleasure to heartily endorse the efforts of your journal to carry to the peoples of the Pacific Coast the message of the development of electricity. There is perhaps no place in the United States where more pioneering work has been done than on the Pacific Coast in hydro-electric development and in the application of steam generated power, and your journal has been largely instrumental in awakening the interest of the public in the efforts of the corporations to give service. I view your journal, from an advertising as well as from a reading standpoint, equal to any publication of its kind in the United States, and believe you have a field here which when exploited will be valuable not only to yourself but to your advertisers as well.

Wishing you every success, I am

Yours very truly,

JAB/B

*John A. Britton*  
Vice President and General Manager.

### THE JOURNAL OF ELECTRICITY IN THE OPINION OF THE DEAN OF THE ELECTRICAL INDUSTRY IN THE WEST —

JOHN A. BRITTON, vice-president and general manager of the Pacific Gas & Electric Company and the noted dean of the electrical industry in the West: "Your journal has been largely instrumental in awakening the interest of the public in the efforts of the corporation to give service. I view your journal from an advertising as well as from a reading standpoint, equal to any publication of its kind in the United States."

**ANNUAL CENTRAL STATION KW-HR. OUTPUT (APR. 1917-MAR. 1918)**

New England States .....	2,189,086,600	
Atlantic States .....	9,589,842,100	
Central States .....	9,433,259,600	21,202,188,000
Pacific and Mountain States.....		5,331,619,600
Total Kw-hr. Output,		26,533,807,600

It is estimated that the population of the Pacific and Mountain States in 1917, allowing 21% increase since 1910, must approximately be 6,700,000, while the population of the remaining parts of the nation was in 1917 93,300,000, making up a total of 100,000,000 people in all.

On this basis it is seen that since the total income of electric power companies for the West and for the remaining parts of the United States is respectively \$64,834,400 and \$411,023,800, the per capita expenditure is respectively \$9.67 in the West as opposed to \$4.40. Again, the total consumption of electric energy being 5,331,619,600 kw-hr. and 21,202,188,000 kw-hr. respectively, or since the West consumes with its population of but 6,700,000 quite approximately 25% of the electric energy consumed by the entire remaining 93,000,000 people in the nation, the per capita consumption is 800 kw-hr. as opposed to 227 kw-hr.—nearly four times the intensive use—striking evidence of the supremacy of the method electrical throughout the West.

**The world's first and only electrically operated transcontinental railroad**—the Chicago, Milwaukee & Puget Sound—passing through Montana, Idaho and Washington. This superb success and triumph of the method electrical applied to transcontinental railroads is causing engineers and financiers the world over to contemplate most seriously the beginning of the gigantic task of electrification of many of the mountain passes of the West.

SOUTHERN CALIFORNIA EDISON COMPANY

EDISON BUILDING  
LOS ANGELES, CALIFORNIA

August 23, 1918.

Mr. Willis M. Deming,  
Vice-President and Business Manager,  
Journal of Electricity,  
Crossley Bldg., San Francisco, California.

My dear Sir:

For many years I have regarded the Journal of Electricity as a bulwark behind the electrical industry of the Pacific Coast. Filling a sphere that includes both the technical and commercial branches of the business, it disseminates the accurate information which is required by those who would keep abreast with the progress of the profession, and at the same time, encourages to greater endeavors.

Its files are a down-to-the-minute history of electrical achievements in the great territory which it covers so conscientiously, and as we sincerely believe this region to be the most fruitful in America, for greater development of our industry, we must accord to the Journal devoted to its needs, one of the highest places in current electrical literature. It is too obvious to require emphasis that a class publication reaching practically all who are engaged in or allied to the electrical business of the West, must of necessity be an advertising medium, which none desiring to reach this constituency can afford to ignore.

Believing that the future will increase for the Journal of Electricity the prosperity which its past enterprise has won, I am,

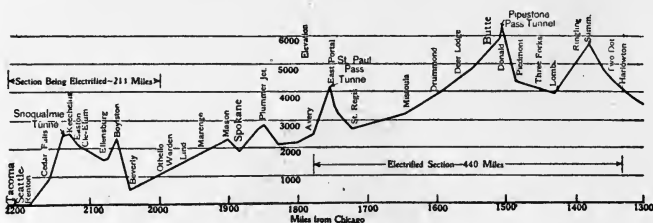
Yours very sincerely,

  
First Vice-President.

THE JOURNAL OF ELECTRICITY  
— A DOWN-TO THE MINUTE HISTORY —

R. H. BALLARD, vice-president of the National Electric Light Association and vice-president of the Southern California Edison Company, one of the largest and in many respects one of the most unique and efficient utility organizations in existence, says: "Its files are a down-to-the-minute history of electrical achievement in the great territory which it covers so conscientiously. We must accord to the Journal, devoted to its needs, one of the highest places in current electrical literature."

The most superb and complete electrically operated mine in the world—the Bunker Hill and Sullivan, near Kellogg, Idaho—the greatest lead silver mine in existence.



Profile of the Chicago, Milwaukee and Puget Sound Electrified Railway, the first transcontinental line to use electric power.

The record-breaking high voltage long distance transmission—the Big Creek transmission lines of the Southern California Edison Company from Big Creek to Los Angeles, 275 miles, at 150,000 volts. It receives its energy through single-phase transformers—the largest yet built. Energy is generated from two power plants, one dropping water 1900 ft. and the other 2100 ft. The present installed capacity is 6400 kw. with an ultimate possible expansion of 225,000 kw.

The greatest dams of the world—the Elephant Butte, the Roosevelt, the Shoshone, the Calaveras, the Morena, the Spaulding and the Arrow Rock—are all located in the West. Aside from the Assuan Dam in Egypt the Elephant Butte Project on the Rio Grande, with its 318 ft. dam stores 2,638,868 acre feet of water which is more than any other artificial reservoir in the world. The Roosevelt, in Arizona, with its artificial storage of 1,367,300 acre feet comes next on the list, while the highest dam in the world is the Arrow Rock on the Boise Project

## The Southern Sierras Power Company

Riverside, California August 24, 1918

Mr. Edward B. Strong,  
Pres. & Gen. Mgr., Technical Publishing Co.,  
Publishers, "Journal of Electricity",  
Crossley Building, San Francisco, Calif.

My dear Mr. Strong:

Permit me, on behalf of The Southern Sierras Power Company, to express our appreciation of the important work the "Journal of Electricity" is carrying on, relating to the development and operation of electrical projects on the Pacific Coast.

It is today pretty generally recognized that proper publicity is an indispensable factor in the operation of a public utility; in the long run, the future of the public utilities is dependent upon the attitude of the public. The "Journal", in our opinion, constitutes an exceedingly important medium whereby the people at large can be advised concerning the needs and necessities of the electrical utilities, and in a perfectly proper way it can do much to bring about a favorable public opinion.

Furthermore, we find that the technical articles contained in the "Journal" are of great value in keeping our operating heads in touch with the activities of the other power companies, giving them the advantage of the experience of others in the solution of many problems that they are confronted with in our own operations. To this end, we make a point of seeing that these men are supplied monthly with copies of the "Journal".

Very truly yours,

A. B. West

Vice-Pres. & Gen. Mgr.

### THE JOURNAL OF ELECTRICITY AND THE LONG DISTANCE POWER OPERATOR —

A. B. WEST, vice-president and general manager of the Southern Sierras Power Company, operating the longest transmission high tension system in the world: "We find that the technical articles contained in the Journal of Electricity are of great value in keeping our operating heads in touch with the activities of other power companies."



in Idaho—a huge rubble concrete structure towering 348.5 ft. in vertical height. The Calaveras, near San Francisco—250 ft. in height—is to be the tallest dirt filled dam in the world, while the Morena, near San Diego—267 ft. high from the bottom of its foundations—is the highest rock fill dam ever attempted in the history of engineering.

**The world's greatest gold dredge**—electrically operated throughout—Yuba No. 16, near Hamonton, California—like a giant iron clad Nautilus—devours with its chain of 18 cubic foot buckets a grand total of 15,000 tons of gravel per day. It digs the gravel, extracts the gold and stacks the waste at a cost of only three cents per ton.

**The longest high voltage submarine cable in the world**—the high powered cable of the Great Western Power Company passing beneath the San Francisco Bay from Oakland to San Francisco, a distance of  $3\frac{1}{2}$  miles, and operating at 11,000 volts.

**The second longest span of aerial cable** is to be found at Carquinez Straits near Benicia, California. Four steel cables of the Pacific Gas & Electric Company's system cover in a single stretch a distance of 4427 feet.

**The most powerful single discharge turbine in the world**—the 18,000 h.p. installation of the Pacific Gas & Electric Company at the Wise Power Plant near Colfax, California.

**The most powerful high head water turbine in the world**—the new 24,000 h.p. installation of the Puget Sound Traction, Light & Power Company at the White River Plant, twenty miles south of Seattle.

EDWARD BROWN  
IRVING MARTIN  
W. A. JORDAN  
J. B. CHANDLER, President  
JOSEPHINE A. HAYES, Secretary

STATE WATER COMMISSION  
OF  
CALIFORNIA

SIXTH FLOOR CALL BUILDING  
IN THE MONTGOMERY AT  
SAN FRANCISCO

CL OFFICE  
ROBERT WILLIAM D. STEPHENS  
STATE ENGINEER & F. WILLIAMS  
L. C. BOWEN, Secretary  
TELEPHONE BUTTE 1007

EXPRESS ALL COMMUNICATIONS TO THE  
STATE WATER COMMISSION

August  
Twenty-eighth  
1918

Mr. Robert Sibley, Editor  
Journal of Electricity  
Croesley Building  
San Francisco, California

Dear Sir:

I know of no great question before the American people upon which the popular attitude is so fundamentally wrong as in the case of hydro-electric development. In the alleged interests of "conservation", statutes have been interpreted by administrative officials and rules and regulations adopted in accordance with such interpretation which are clearly antagonistic to true conservation. Fortunately, the country is awakening, though slowly, to view this most important industry in a proper light. Fortunately, also, the engineering departments of a number of our best universities are assisting in spreading this light. I personally know of no periodical which is rendering better service in the publication of facts, figures and arguments designed to correct existing erroneous views and to build up the industry, than the Journal of Electricity. I take this opportunity to heartily commend your efforts and to thank you for the splendid work you are doing in the campaign for more extensive water power development, upon which the future of the entire West is so vitally dependent.

Yours very truly,

*A. E. Chandler*

AEC/J

President.

THE JOURNAL OF ELECTRICITY  
AND THE ENGINEER —

A. E. CHANDLER, president of the San Francisco Engineers' Club, president of the California Water Commission and one of the most eminent authorities on Western Water Law: "I personally know of no periodical which is rendering better service in the publication of facts, figures and arguments designed to correct existing erroneous views and to build up the industry than the Journal of Electricity."

## **Vast Potential Water Power of the West —**

Thus it is seen that over seventy per cent of the undeveloped water power of the nation lies in the states west of the Rocky Mountains. In other words,

### **POTENTIAL WATER POWER OF UNITED STATES**

	<b>Minimum hp.</b>	<b>Maximum hp.</b>
North Atlantic States.....	2,225,000	4,092,000
South Atlantic States.....	2,344,000	4,256,000
North Central States.....	1,733,000	3,558,000
South Central States.....	1,438,000	2,785,000
Western States.....	<b>18,996,000</b>	<b>36,707,000</b>
	<hr/> 26,736,000	<hr/> 51,398,000

in the eight Pacific Coast states lie undeveloped practically two and one-half times the undeveloped water power in all the remaining commonwealths of the nation combined.

**Electrical energy due to its use in pumping water for irrigation** throughout the West is rendering a unique and indispensable service. In the San Joaquin Valley of California, for instance, are to be found the most extensive electrically operated pumps in the world, not only for water but for the pumping of fuel oil as well. California alone last year produced over a billion dollars in agricultural wealth and another billion in manufactured products. Electricity plays a vital part in this great national service.

**The public service commissions** of the West authorized by law to fix the rates and to supervise generally the work of the public utilities in the various commonwealths have established new and important records in utility achievement. Indeed, their rulings are models of their kind. In the Northwest as well as in California the eastern commissions find

## PACIFIC POWER & LIGHT COMPANY

SPALDING BUILDING

Journal of Electricity, PORTLAND, OREGON August 28, 1918.

Crossley Building,

San Francisco, Calif.

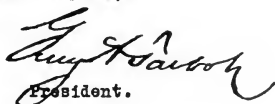
Gentlemen:

I take real pleasure in speaking a good word for your Journal.

It has a worthy mission in the public utility industry, and it is filling it most commendably. I have watched its rapid growth and progress during the past year with a great deal of interest. The industry on the Pacific Coast needs such a journal as yours to properly reflect to the industry generally and the public the development and progress that is being made.

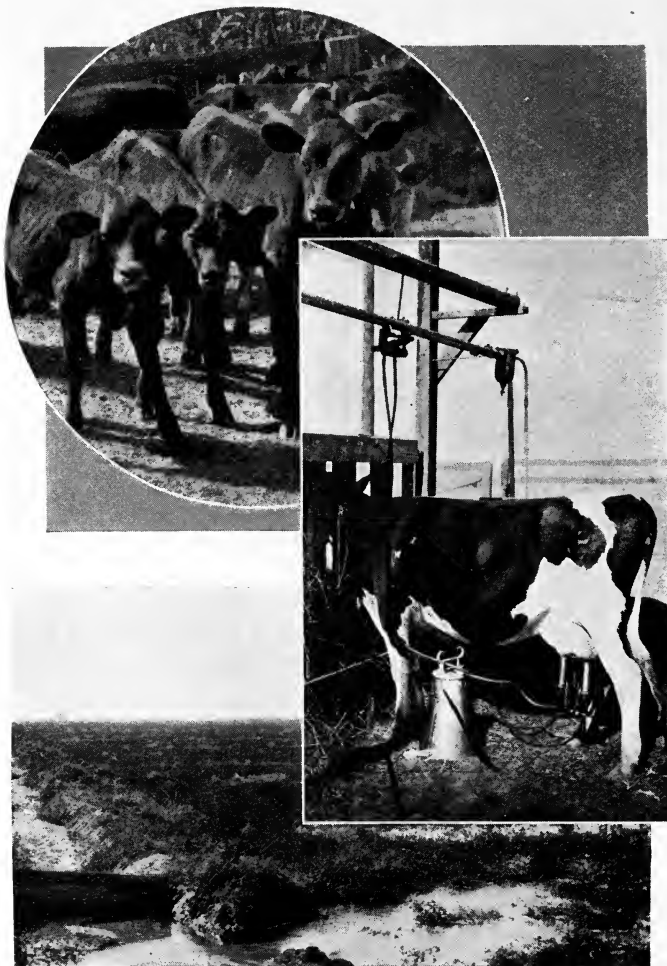
Your Journal deserves to succeed and to receive the hearty cooperation of the industry in the service it is rendering.

Respectfully yours,

  
President.

### THE JOURNAL OF ELECTRICITY AND THE GREAT NORTHWEST —

GUY W. TALBOT, president of the Northwest Electric Light & Power Association and of the Pacific Power & Light Company, and a recognized builder in the Northwest: "The Journal of Electricity has a worthy mission in the public utility industry and it is filling it most commendably. Your journal deserves to succeed and to receive the hearty cooperation of the industry in the service it is rendering."



#### ELECTRICITY IN WESTERN AGRICULTURE

More electricity is used on the farms of California alone than in all the rest of the United States together, the other states of the West ranking second.

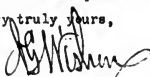
SAN JOAQUIN LIGHT & POWER CORPORATION  
GENERAL OFFICE  
FRESNO, CALIFORNIA

Mr. Robert Sibley, Editor, August 23, 1918.  
Journal of Electricity,  
San Francisco, California.

Dear Sir:-

It seems to me that the Journal of Electricity is reaching more of the people engaged in the development of the electrical industries on the Pacific Coast and is giving them a better diversity of subjects, that are interesting to the trade, than ever has been done by it before. The mass of information furnished the readers of the Journal is refreshing and illuminating, I think, largely, because many of the articles are by the men whom we all know. I find a large number of the San Joaquin organization depending upon the paper as never before. I have made inquiries and learn that they place it first in the matter of technical and general information in our line. There is no medium of advertising that could possibly reach the electrical trade on this coast with the same influence, and therefore, it ought to be a prime source for advertising.

Very truly yours,



General Manager.

THE JOURNAL OF ELECTRICITY  
IN AGRICULTURAL AREAS —

A. G. WISHON, general manager of the San Joaquin Light & Power Corporation, a corporation that serves the greatest electrically irrigated area in the world: "My men place the Journal of Electricity first in the matter of technical and general information in our line. There is no medium of advertising that could possibly reach the electrical trade on this coast with the same influence, and therefore it ought to be a prime source of advertising."

much from which to pattern in building up their decisions.

**The electrical contractor dealers** of the West are recognized as the most progressive group in the United States—even in British Columbia to the north. Stated meetings are held at which problems vital to the interest of the industry are discussed and action taken looking to their solution. It was early recognized that the West had thus advanced so far beyond the East in the contractor-dealer movement and its spirit of co-operative helpfulness that W. L. Goodwin, a product of the Pacific Coast States, carried the ideals of western cooperative helpfulness to the centers of the East and established what is now known as The Goodwin Plan—which in recent months has been recognized by authorities the world over in establishing a new era in the merchandising of electrical ware.

**The California Electrical Co-operative Campaign** is a movement of cooperative helpfulness originating in California that comprises all four branches of the electrical industry—the manufacturer, the jobber, the central station, and the contractor-dealer—whereby new ideals in mutual service have been established. A fund of \$12,000 has been voluntarily contributed from all branches of the industry to to carry on the work. Two paid field agents are now traveling up and down the great commonwealth of California, preaching the gospel of the Golden Rule and the principle of cooperation. These field agents act under the direction of an advisory committee composed of a notable group of men representing all branches of the industry who have in former years established records for coordinating the work in the industry.



SOUTHERN CALIFORNIA EDISON COMPANY

EDISON BUILDING  
LOS ANGELES, CALIFORNIA

Mr. Willis M. Deming  
Vice President and Business Manager  
Journal of Electricity  
Crossley Bldg., San Francisco, Cal.

August 26th, 1918.

Dear Sir:

Observing with gratified interest the progress which the Journal of Electricity has been making, it seems opportune to congratulate you upon the excellent work that it is doing for the electrical business of the Pacific Coast.

Studios in the consideration of all the important developments and innovations, the great body of men who represent the electrical profession have come properly to regard the Journal's utterances as based on accurate knowledge, and entitled to thoughtful consideration.

In fostering the splendid electrical co-operative movement in California, the object of which is to bring into harmonious working the several branches of our industry, the Journal has done a magnificent and enduring work. Its policies reflect a decided spirit of optimism and courage, which has done much to electrify our region, and portends a future of progressive advancement.

Any one familiar with the Journal's make-up cannot help dwelling upon the advertising pages, which are always interesting and instructive, showing conclusively that the Journal is a profitable medium, by which the manufacturers and dealers of electrical supplies can present their propositions directly to the enormous purchasing clientele with which you must be in constant touch.

It is my custom to look carefully through each issue of the Journal of Electricity, not only for its educational value, but because if I do not, I am sure to learn that I have missed something of importance. I notice that my assistants seem to take the same attitude.

With appreciation of your work and renewed wishes for your success, I am,

Yours very truly,



Secretary and General Agent.

SMK Sm

THE JOURNAL OF ELECTRICITY  
AND THE CO-OPERATIVE CAMPAIGN —

S. M. KENNEDY, general agent of the Southern California Edison Company and one of the best known authorities on commercial matters pertaining to the electrical industry: "In fostering the splendid cooperative movement in California, the Journal of Electricity has done a magnificent and enduring work."

**The Universities of the West** are recognized the world over as institutions unique in their production of men of an adventurous type that play the game of life with an avowed intention to be of service to mankind and the desire to institute new and daring enterprises in engineering endeavor, in statesmanship and in journalism. Herbert Hoover, Franklin K. Lane, Jack London and James Hopper are typical of our argonauts in the West. Here in our great electrical industry upon close inspection will be found fully two score such men devoted to ideals of service in engineering daring and helpfulness that may well challenge the world to match their caliber.

**Shipbuilding** is proceeding in Pacific Coast ports in progress without a parallel in the annals of the art. Not only is a vast proportion of the new 25,000,000 tonnage of the Emergency Fleet Corporation being constructed here, but the workmanship in efficiency and in speed is carrying away all honors offered by the corporation. The following figures supplied by the U. S. Shipping Board speak for themselves:

**Ships Completed and Delivered up to Sept. 14, 1918**

Pacific Coast section, 137 vessels of 1,011,160 d.w. tons.  
Atlantic Coast section 87 vessels of 634,860 d.w. tons.  
Great Lakes section 131 vessels of 399,855 d.w. tons.  
Gulf Coast section 1 vessel of 3,500 d.w. tons.  
Total, 356 vessels of 2,045,875 d.w. tons.

It will be noticed the Pacific Coast quota was practically fifty per cent and that the ships built on the Coast averaged nearly six hundred tons larger than on the Atlantic.

**Ships Launched but not yet Completed and Delivered to  
September 14, 1918**

Pacific Coast section, 134 vessels of 610,900 d.w. tons.  
Atlantic Coast section 69 vessels of 392,816 d.w. tons.  
Great Lakes section 33 vessels of 117,050 d.w. tons.  
Gulf Coast section 28 vessels of 102,800 d.w. tons.  
Total, 264 vessels of 1,223,566 d.w. tons.

*Western Electric Company.*

680 FOLSOM STREET  
SAN FRANCISCO

September 4th, 1918

IN REPLY REFER TO

ROBERT SIBLEY,  
c/o Journal of Electricity,  
CROSSLEY BUILDING,  
SAN FRANCISCO, CALIFORNIA.

Dear Mr. Sibley:-

I always look forward to the latest issue of the Journal of Electricity with the greatest interest and pleasure as to the popular and instructive reading matter covering technical subjects, current events and happenings on the Pacific Coast. The advertising section is both instructive and useful to all purchasers of electrical material.

I want to take this opportunity of congratulating you on publishing the most widely read electrical trade paper west of the Rocky Mountains.

Wishing you further success, beg to remain,

Yours very truly,

*W. S. Berry*

SALES MANAGER

WSB  
MKT

**THE JOURNAL OF ELECTRICITY  
AND THE ELECTRICAL TRADE IN THE WEST —**

W. S. BERRY, western salesmanager of the Western Electric Company and president of the Pacific Division of the Electrical Supply Jobbers' Association: "I want to take this opportunity of congratulating you on publishing the most widely read electrical trade paper west of the Rocky Mountains."

Here again the Pacific Coast has furnished fifty per cent of the total ships launched in the entire country.

The bank clearings for the month of August of twenty-two cities of the West indicate some of the vast spending power of this region:—

City	Aug., 1918	City	Aug., 1918
San Francisco .....	\$488,652,47	Stockton .....	8,786,470
Seattle .....	164,528,363	Ogden .....	8,267,679
Los Angeles .....	129,247,000	Helena .....	7,484,119
Portland .....	109,707,379	Boise .....	6,000,000
Salt Lake City.....	52,358,981	San Jose .....	5,384,308
Spokane .....	32,724,455	Billings .....	4,877,742
Oakland .....	27,833,395	Long Beach .....	4,318,113
Tacoma .....	22,365,348	Pasadena .....	3,548,024
Sacramento .....	18,253,773	Yakima .....	3,451,621
Fresno .....	10,854,613	Bakersfield .....	3,177,418
San Diego .....	10,509,717	Reno .....	2,821,919

A total of \$1,125,152,944. It is to be noted that this is not a month in which the transactions of the Liberty Loan modify the figures.

The bank clearings for cities of Arizona, New Mexico and Colorado were not available, hence are not included in this list.

## The Journal of Electricity

The Journal of Electricity is one of the oldest electrical papers of the United States. Foreseeing the possibilities of this beginning industry in the West, the paper started in 1887 to help its growth and to meet its needs. From that time to this it has played a vital part in every development which has taken place in the West. Its columns form a record (in many cases the only one now available) of the successive world records and remarkable achievements of this region in the electrical field; its co-operation and its full support have been of material assistance in every movement in the way of progress.

FORM 12 (5-19-18)  
LOS ANGELES  
250-240 S. LOS ANGELES STREET

OAKLAND  
200-110 TWELFTH STREET

PORTLAND  
21-27 FIFTH STREET NORTH

SAN FRANCISCO  
275 UNION STREET

SEATTLE  
275 FIRST AVE SOUTH



PACIFIC STATES ELECTRIC COMPANY

San Francisco, Cal.

August 16th 1918

MR. ROBERT SIBLEY,  
Journal of Electricity,  
Crosley Bldg.,  
San Francisco, Calif.

Dear Sir:-

The Journal of Electricity has made such substantial and rapid progress in the course of the last twelve months that I am constrained to compliment you and the organization of the Journal of Electricity. As one of the electrical distributors on the Pacific Coast, we have been keenly interested in your efforts to bring to the electrical reading public the problems of wholesale and retail distribution. This form of encouragement is very helpful to the electrical distributor.

It is because of this and other reasons that our Company has used your columns for a substantial part of its advertising program.

You have set for yourselves a rate of progress which I am fearful you will find difficult to maintain.

Very truly yours,

President.

TBB/EG

THE JOURNAL OF ELECTRICITY  
AND THE ELECTRICAL JOBBER —

T. E. BIBBINS, president and general manager of the Pacific States Electric Company, one of the best known supply houses in the West: "We have been keenly interested in your efforts to bring to the electrical reading public the problems of wholesale and retail distribution. It is because of this and other reasons that our company has used your columns for a substantial part of its advertising program."

Through the personal work of those associated with it and through the influence of its columns, the Journal of Electricity has been a leader in formulating the policies of the industry and it can fairly claim a large measure of responsibility for the cooperative spirit and successful inter-organization of the industry in the West.

### **Societies and the Cooperative Movement —**

The Journal of Electricity was instrumental in the formation of the Pacific Electrical Transmission Society in 1899 which played so important a part in affairs electrical on this coast up to 1903. Members of the staff were among those to propose and carry out the Electrical Development League and the Pacific Coast Section N. E. L. A. The Journal of Electricity has been a consistent advocate of the cooperative movement and its editorials for several years preceding fostered the spirit which led up to the formation of the Electrical Cooperative Campaign of California. It has watched and recorded the growth of the electrical retail trade in this region, has stood for its organization and development and in sympathy with the western standpoint, is today taking an important part in the solution of merchandising problems. It is now urging the unification of Engineering Societies in the West with the purpose of meeting vital sectional problems in a cooperative spirit.

### **Legislation —**

In the formulating of legislation with a bearing on the electrical industry the Journal of Electricity has played an important part. Recognizing the development of our water resources as primarily a problem of the West, it has untiringly, and in the early days almost single-handedly, waged a campaign

H. C. REID, President  
507 Montgomery St.  
San Francisco

VICE PRESIDENTS AND  
EXECUTIVE COMMITTEE

T. J. BENNETT  
M. A. DE LEEU, San Francisco  
J. GEMBLER, Oakland  
B. OYLER, Berkeley  
W. COXALL, Berkeley  
JAS. WOODS, Sacramento  
M. E. RYAN, Redwood City  
F. J. SOMERS, San Jose  
W. COOK, Santa Cruz  
H. H. COURTRIGHT, Fresno  
C. E. ARBOGAST, Los Angeles

THE CALIFORNIA ASSOCIATION  
—OF—  
ELECTRICAL CONTRACTORS AND DEALERS

Office of the Secretary-Treasurer  
808 HIALTO BUILDING  
Tulhatch Tower 4210

SAN FRANCISCO.

Aug. 24, 1918.

Mr. Robert Sibley,  
Secty & Editor in Chief,  
Journal of Electricity,  
Crossley Building,  
San Francisco, Calif.

Dear Sir:-

It is with considerable pleasure that I am privileged to express here, in a small measure, the sentiment of the Electrical Contractors and Dealers in this State about the assistance and friendly co-operation that is so very evident in your Journal of Electricity.

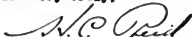
The Electrical Contractors and Dealers have felt the need of just such assistance as you are rendering and, in these days of evolution of the contractor-dealer movement, your columns are providing a medium of exchange that is indeed very helpful.

My personal wishes are that you will continue to work along the lines of development that you have adopted as your policy and that the support of the Electrical Contractors and Dealers will continue as an acknowledgment of their appreciation.

With sincere wishes for your every success, I am,

Yours very truly,

HCR/J.



THE JOURNAL OF ELECTRICITY  
AND THE CONTRACTOR-DEALER —

H. C. REID, president of the California Association of Electrical Contractors and Dealers—an association of national reputation for effective results: "The electrical contractors and dealers have felt the need of just such assistance as you are rendering and, in these days of evolution of the contractor-dealer movement, your columns are providing a medium of exchange that is indeed very helpful."



in behalf of liberal legislation in that matter; its editorials have been read by and have influenced representatives and senators toward a recognition of



#### CORRESPONDENCE FROM THE WORLD OVER

From every corner of the globe come inquiries, letters of appreciation, requests for help. Russia, China, Japan, Siam, Canada, Ireland, South America, England and Italy are to be recognized from the stamps of this group.

the importance of governmental relief. The Journal of Electricity was one of the leaders in the movement which led to the formation of a Railroad Commission in California, the forerunner of western development in that line and in many respects the pattern for later eastern action. The Journal of Elec-

THE JOURNAL OF ELECTRICITY  
IN EVERY QUARTER OF THE GREAT WEST—

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H. L. BLEEKER, vice-president of the Northwest Electric Light & Power Association and vice-president and general manager of The Washington Water Power Company, a company that serves the electrical lines of the Chicago, Milwaukee & Puget Sound Railway and the superbly electrically equipped mines of the famous Coeur d'Alenes of Idaho: "I would say that it is more closely read than any other publication of its class that we receive, and we look for its receipt with keen pleasure."

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RONALD C. GRIFFIN, electrical distribution department of the Pacific Gas & Electric Company, writes to the editor of the Journal of Electricity how the younger men view its contents: "The Journal of Electricity is so full of matter of intimate interest to western engineers that it compels me to decide that I can no longer continue to be a non-subscriber."

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GEORGE A. CAMPBELL, general manager of The Truckee River General Electric Company, the largest and most influential public utility company in Nevada: "You will continue to grow because you are expending your greatest effort in advancing the industry, instead of utilizing all your energy in advancing the Journal."

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ED WRIGHT, secretary of the Public Service Commission of Oregon, a commission noted for many advances in utility regulation: "We have found your publication to be of interest and value to the commission, and shall be glad to be placed upon your paid subscription list."

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L. R. JORGENSEN, consulting engineer and chairman of the San Francisco Section of the American Institute of Electrical Engineers: "About eighteen years ago, I began to read the Journal of Electricity regularly. As an engineer and as chairman of the San Francisco Section of the American Institute of Electrical Engineers, I have at all times found the Journal of Electricity and its staff most helpful in my work."

tricity has assisted in bringing about the financing of Pacific Coast utilities to a marked degree; its records have more than once been accepted in courts unquestioned in the determining of patent priorities.

### **Technical Advance —**

In the columns of the Journal of Electricity have been recorded the achievements in technical practice and thought during the past thirty-one years, so many of which have been developed in the West. Through its pages have been presented for the first time new theories of valuation, of engineering thought and electrical practice which have since been adopted into general use or are the forerunners of future developments. The Journal of Electricity has fostered research work in the Universities and is in some measure responsible for the institution of courses to meet technical needs along the lines of both gas and electricity. It has stood for the broadening of the scientific and engineering curriculum in our universities. In the meeting of special western problems such as the use of fuel oil in power plants and the applications of electricity to western agriculture it has in large measure stood alone in its contribution to the industry.

### **National and International Relations —**

Since its foundation the Journal of Electricity has had a national standing of dignity compatible with its age and its high standards, and has been of influence in bringing the western case and the western problems before the tribunal of eastern centers. Furthermore, the Journal of Electricity has been a pioneer in the urging of a larger and more wholesome outlook toward our Pan-Pacific neighbors. From the first it has found an interested audience in this field and today it has subscribers in Japan,

## **Representatives of a Billion Dollars in Invested Capital Thank the Journal of Electricity —**

**PACIFIC COAST SECTION, N. E. L. A. (Riverside Convention)**, an association representing over a half-billion dollars in invested capital: "We wish to place on record as the first resolution, one coming from the convention as a whole and expressing the sentiments of each individual member, a resolution acknowledging our full appreciation of the work done, and the unselfish cooperation of the Journal of Electricity and its staff. To the Journal and its organization this convention is indeed indebted:

"Whereas, The Journal of Electricity has freely published in its columns all of the papers and reports presented at the Riverside Convention of the Pacific Coast Section, N. E. L. A., and has also published a Daily Service Issue during the convention,

"Be It Resolved, That this Association hereby expresses its hearty thanks to the Journal and places on record its appreciation alike of the generosity and efficiency with which this service has been rendered."

**PACIFIC COAST SECTION, N. E. L. A. (Del Monte Convention)**. In writing to Robert Sibley, Editor of the Journal of Electricity, who acted as general chairman of the Convention Committee, the Executive Committee of the Association thus expressed itself:

"The Executive Committee of the Pacific Coast Section, N. E. L. A., at its meeting of Sept. 20, 1918, unanimously decided that a vote of thanks and appreciation be extended to the Journal of Electricity organization for the able, efficient and economical manner in which the convention details were handled."

**From the Proceedings of the Spokane Convention of the Northwest Electric Light & Power Association —**

**MR. CLARK (Puget Sound Traction, Light & Power Company)**: "I think it is perfectly fitting that this Association take some action in the way of expressing appreciation and gratitude to the publication known as the Journal of Electricity for the very excellent cooperation and interest that they have manifested in the proceedings of this Association which has made possible the chronicling of the events of this body in such a way that it is bound to add prestige and give impetus to the work of the Association; and particularly to the cause of the development of the electric range. I move that an expression of appreciation be extended by this Association on behalf of the Journal of Electricity." Motion duly seconded, put to a vote and unanimously carried.

**PRESIDENT OSBORN**: "And that is well merited."



**GOVERNMENTAL AUTHORITIES  
THANK THE JOURNAL OF ELECTRICITY  
FOR ITS WAR SERVICE WORK—**

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**GEORGE A. VAN SMITH**, manager of publicity for the Twelfth Federal Reserve District for the various Liberty Loan Drives: "I wish on behalf of the General Publicity Committee to congratulate you upon the excellence of your thumb-nail sketches and slogan editorials. They can not fail to be of tremendous advantage to the work of this organization."

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**GEO. P. EDWARDS**, in charge of Loan Publicity for the division of the Trade Press: "The value of your publication, enlisted in the cause inaugurated by the President of the United States of warring for humanity and America, cannot be overestimated."

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**FRANKLIN K. LANE**, Secretary of the Interior: "I have received the copy of the Journal of Electricity for Sept. 15, 1918, and want to send you this word of thanks for the attention which you gave to the returning soldier proposition."

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**B. S. CUTLER**, chief of the Bureau of Foreign and Domestic Commerce, in acknowledging the good work of the Journal of Electricity in forwarding commercial helpfulness among our foreign neighbors: "I have read with pleasure the editorial in the September 15, 1918 number of your journal and wish to express my appreciation of the cordial manner in which you are helping us to put before American manufacturers the opportunities that await them in foreign fields."

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**A. E. SCHWABACHER**, Federal Fuel Administrator, in writing appreciatively to the Editor of the Journal: "With thanks to you and the men of your Journal for the excellent support you are giving the Fuel Administration in its efforts for conservation."

China, Korea, Russia (the Russian government is still on its lists for five paid subscriptions), India, Australia, the Philippines, Hawaii and in practically every country of South America.

### **Personal Influence —**

Today the Journal of Electricity stands for service to the West, the solution of its problems and the recording of its achievements. Not only does it bring information to meet the particular needs of this region but it is heart and soul in the development of the electrical industry west of the Rockies and has a part in the plans and policies which determine the course of its progress. In recognition of its standard of impartial service, the Journal of Electricity is increasingly being called upon to give advice and information on the worth of electrical ware, of electrical firms and individual recommendations for employment and government service.

### **War Service —**

Since the United States has entered the great war, the sole object of the Journal of Electricity has been to serve the nation. Realizing that only in so far as it may help to win this war and to prepare for a sane reconstruction period after the war, can it justify its existence during this trying time, the entire work of the paper has been tested on this basis. Not only have the members of this organization attained 100 per cent in all war giving, not only have fifty per cent of its staff entered the government service and their positions where possible filled with young women workers in the spirit of the times, but every contribution to the columns of the Journal of Electricity has been weighed in the light of its value to the national interest. Its service in Liberty Loan and other patriotic campaigns has been recognized



by special letters of thanks from government officials—and the contents of its pages even where not specifically labelled “war” are selected with the thought of contributing to the efficiency of an industry which is a war essential. Lost energy and wasteful methods are today a national loss—and to the elimination of such conditions, as well as to the furthering of direct war service, the influence of the Journal of Electricity is pledged.

### THE JOURNAL STAFF

The thirty-one years that have been chronicled by the Journal of Electricity and its predecessors have been years of splendid achievement.

**E. B. Strong**, the veteran president of the Technical Publishing Company, publishers of the Journal



of Electricity, has devoted many years of service to the Journal of Electricity in its efforts to disseminate throughout the known world over fifty billion good words for the West. Mr. Strong has been associated with the publishing business on this coast for over thirty years. He is a recognized builder, of constructive vision for all things

that are for the betterment of the great section of the country served by the Journal of Electricity.

**W. M. Deming**, general manager of the Journal of Electricity, is a native of New England and came to the Journal in August, 1917, after twenty-nine years of successful business experience with the

General Electric Company, in which service he occupied many positions of importance and responsibility. Mr. Deming is a figure of national reputation in the electrical industry and his wide experience acquired first hand in many of the problems of the electrical industry—particularly in the jobbing and contractor-dealer field—is of invaluable assistance in the helpful work of the Journal of Electricity in building up the electrical industry in the West. As president and part owner of the Electric Supply Company of Memphis, Tenn., one of the best known electrical supply houses in the South, he not only keeps in constant touch with all problems affecting the industry, but is himself vitally interested in their correct solution.

**Robert Sibley**, the editor of the Journal of Electricity, is a native of the Southern States. He received his high school and college education in the West, graduating in 1903 as the most distinguished student among the engineering classes at the University of California and was the only graduate of the year to be elected to all three of the scholarship societies—Phi Beta Kappa, Sigma Xi, and Tau Beta Pi. He has served four years as head of the school of engineering at the University of Montana and four years as professor of mechanical engineering at the University of California. He came with the Journal in 1911 and since January, 1917, has directed the editorial policy of the Journal. Mr. Sibley's writings on subjects relating to hydroelectric and steam electric practice in the West, and on engineering development in China, Japan and other points of the Orient, where he has traveled extensively, have been widely and favorably reviewed in the technical and scientific press of the world. Characteristic of this comment is the signed review of his recent book on



W. M. Deming  
General Manager



Robert Sibley  
Editor



A. H. Halloran  
Assistant Business Manager



Miss Clotilde Grunsky  
Associate Editor

"Elements of Fuel Oil and Steam Engineering," that has just appeared in the September issue of the Journal of the American Society of Mechanical Engineers, which tersely summarizes his recent book in the following highly favorable light: "It is unquestionably the best work of its kind for students of steam engineering who are interested in fuel oil."

**Arthur H. Halloran**, assistant business manager of the Journal of Electricity, graduated from the University of California with the class of 1904. He has been a consistent worker in behalf of the Journal since 1907 when he entered the Journal's service. In addition to Mr. Halloran's present activity on the business end of the Journal he is also serving in a most effective manner as secretary of the Pacific Coast Section, N. E. L. A., with which organization he has been intimately associated since its founding in 1916. Prior to coming with the Journal of Electricity, Mr. Halloran served on the editorial and managerial staff of the Mining and Scientific Press. In 1915 he was appointed a member of the Jury of Awards at the Panama-Pacific International Exposition.

**Miss Clotilde Grunsky**, associate editor of the Journal of Electricity and daughter of C. E. Grunsky, the noted civil engineer, graduated with the class of 1914 from the University of California, receiving election to Phi Beta Kappa and the award from the University faculty as the most distinguished graduate among a class of eight hundred men and women students. Since graduating she has devoted much study and time to vocational and welfare work among women and was for a time connected with the faculty of Mills College as special lecturer on vocational problems. Her constructive technical writings on subjects

relating to engineering and contractor-dealer problems in the electrical industry of the West are familiar to the readers of the Journal of Electricity.

## WHO WRITE THE ARTICLES FOR THE JOURNAL OF ELECTRICITY

The Journal of Electricity enjoys perhaps a unique position in technical journalism. Speaking as it does for an industry in the West that has established a host of new world records in commercial, engineering and industrial achievement, it numbers among its contributors many of the most distinguished engineers, executives, educators and public-spirited thinkers of modern times—the leaders of practically every progressive movement in the industry in the West during this period.

Among these contributors are:

### Present Day Problems of Interest to the Industry

- JOHN A. BRITTON, vice-president and general manager of the Pacific Gas & Electric Company, regent of the University of California, on public policy and water power legislation.
- JULEAN ARNOLD, American commercial attache to China, on engineering and commercial matters in the Orient.
- JOHN CLAUSEN, vice-president and manager of the foreign department of the Crocker National Bank, on foreign finance in commerce and engineering.
- HARRY COE, vice-president and manager of the foreign department of the Anglo London Paris National Bank, on finance in the Orient.
- RAY INGERSLEV, electrical engineer of the Siam Electricity Company, Ltd., on electrical problems in Siam.
- R. A. LUNDQUIST, expert for the department of commerce, on electricity in the Orient.
- H. F. JACKSON, president of the Pacific Coast Section N. E. L. A. and vice-president and general manager of the Sierra & San Francisco Power Company, on rates and priorities.
- A. G. WISHON, general manager of the San Joaquin Light & Power Corporation, on rate raising.
- A. H. BABCOCK, consulting engineer for the Southern Pacific Company, on railway electrification.
- E. J. WALLIS, western manager of the Western Electric Company, on conserving labor in the jobbing business.
- J. B. DAVIDSON, professor of agricultural engineering, University of California, on electric tractors.
- C. D. MARX, acting president of Stanford University, on the college engineer and military service.

- S. T. HARDING, irrigation specialist, University of California, on electric pumping.
- W. K. WHITE and H. G. PROST, well known patent attorneys, on electrical patents in the West.
- MAJOR GEORGE F. SEVER, U. S. A., on problems of the War Industries Board.
- MAX THELEN, president of the California Railroad Commission, on utility war problems.
- GERTRUDE TUCKER, secretary to the president of the Southern California Edison Company, on women and the war.
- ALBERT E. SCHWABACHER, federal fuel administrator for California, on fuel conservation.
- H. G. BUTLER, power director of the California Railroad Commission, on power conservation.
- D. M. FOLSOM, federal fuel oil administrator for the Pacific Coast, on fuel oil and its conservation.
- CLOTILDE GRUNSKY, associate editor of the Journal of Electricity, on women in the industry and good practice in merchandising in the West.
- J. W. BECKMAN, electro-chemical engineer, on Pacific Coast electro-chemical development.

## Power Generation and Development

- W. F. NEIMAN, salesmanager of the Universal Gas & Electric Company, on data concerning California power plant generation.
- C. E. GRUNSKY, consulting engineer, on rate fixing problems and new power development.
- CAPTAIN C. E. GRUNSKY, JR., consulting engineer, on rate fixing and valuations.
- A. E. CHANDLER, president California Water Commission, on new advances in Western water law.
- JOHN H. LEWIS, state engineer of Oregon, on organization of water right administration.
- F. H. FOWLER, chief hydroelectric engineer for the U. S. Forest Service, on new water power developments.
- C. E. MAGNUSSON, professor of electrical engineering, University of Washington, on a plan for large power development.
- W. L. HUBER, consulting civil engineer, government reserves and forestry data.
- L. R. JORGENSEN, consulting engineer, on multiple arch design.
- F. G. BAUM, consulting engineer, on new hydroelectric development.
- P. M. DOWNING, chief engineer electric department, Pacific Gas & Electric Company, on new hydroelectric development.
- ARNOLD PFAU, chief hydraulic engineer Allis-Chalmers Company, on large hydro units.
- J. E. WOODBRIDGE, chief engineer Sierra & San Francisco Power Company and chairman engineering committee of Pacific Coast Section, N. E. L. A., on increasing economy in hydro generation.
- J. P. JOLLYMAN, head of electric construction Pacific Gas & Electric Company, on increasing hydro economies.
- JOS. N. LE CONTE, head of hydraulic department University, of California, on snow fall data in predicting stream flow.
- CAPTAIN L. J. CORBETT, professor of electrical engineering, University of Idaho, on polyphase meters.

## Transmission and Distribution

- HARRIS J. RYAN, professor of electrical engineering, Stanford University, on insulator high tension tests.
- C. O. POOLE, chief engineer Southern Sierras Power Company, on transmission line construction.

- L. M. KLAUBER, superintendent San Diego Consolidated Gas & Electric Company, on substation design and construction.
- JOHN R. BROWNELL, superintendent of safety, California Accident Commission, and ROBERT L. ELTRINGHAM, electrical engineer for the Commission, on safety problems.
- E. B. ROSA, chief physicist, W. C. WAGNER, field electrical engineer, and C. E. OAKS, research engineer of the U. S. Bureau of Standards, on problems connected with the National Electrical Safety Code and with high tension insulator investigations.
- H. A. BARRE, electrical engineer for the Southern California Edison Company and chairman of the engineering committee of Pacific Coast Section, N. E. L. A., on high voltage problems and new power development.
- D. I. CONE, electrical engineer with joint committee on inductive interference, on problems encountered in interference research.
- J. A. KOONTZ, electrical engineer Great Western Power Company, on high tension phenomena and economy study.
- R. C. POWELL, electrical engineer Pacific Gas & Electric Company, on iron as a conductor of electricity.
- R. E. CUNNINGHAM, electrical engineer of the Southern California Edison Company, on distribution losses.
- L. S. READY, electrical engineer for California Railroad Commission, on war problems.
- H. H. SCHOOLFIELD, chief engineer Pacific Power & Light Company, on national electrical safety code.
- S. J. LISBERGER, chief engineer San Francisco district, Pacific Gas & Electric Company, on distribution economies.
- E. R. NORTHMORE, superintendent of distribution, Los Angeles Gas & Electric Corporation, on electrolytic and distribution losses.
- J. B. FISKEN, chief engineer Washington Water Power Company, on electric range loads.
- R. J. DAVIDSON of the Pacific Power & Light Company, on underground distribution.
- AUSTIN ADAMS, San Diego Consolidated Gas & Electric Company, on electric installation at Camp Kearny.
- MAJOR JOHN C. HAYES, formerly president and general manager of the Mt. Whitney Light & Power Company, on electrical installation at Camp Lewis.

## Steam Generation and Fuel Oil Practice

- R. J. C. WOOD, superintendent of steam generation, Southern California Edison Company, on steam power plant losses.
- ROBERT SIBLEY, Editor Journal of Electricity, on fuel oil and steam engineering practice.
- CHAS. H. DELANY, steam power plant specialist Pacific Gas & Electric Company, on fuel oil and steam engineering practice.
- E. A. ROGERS, efficiency engineer for the Palace Hotel, San Francisco, on increasing isolated power plant economies.
- J. M. WADSWORTH, administrating engineer of fuel administration, on increasing power plant economy.
- C. N. CROSS, assistant professor mechanical engineering at Stanford University, on increasing boiler room economies.
- W. J. SANTMYER, mechanical engineer for the Puget Sound Traction, Light & Power Company, on powdered coal.

## Cooperative Electrical Selling

- L. H. NEWBERT, chairman California Electrical Cooperative Campaign;
- W. L. GOODWIN, founder of the "Goodwin Plan," General Electric Company.

- M. L. SCOBEX, general manager of the Home Electrical, on dealer problems.
- G. E. ARBOGAST, president Southern California Association of Electrical Contractors and Dealers, on affiliation.
- H. P. PITTS, commercial department Pacific Gas & Electric Company, on commercial practice.
- R. M. ALVORD, manager supply department General Electric Company, on better selling methods.
- W. D. KOHLWEY, general manager Kohlwey-Smith-Alfs Company, on the Goodwin Plan.
- A. L. SPRING, field representative California Electrical Cooperative Campaign, on cooperative selling.
- FORESTER E. SMITH, secretary Seattle Association Electrical Contractors and Dealers Association, on the Goodwin Plan.
- T. E. BIBBINS, president and general manager Pacific States Electric Company, on community of interest.
- D. E. HARRIS, salesmanager Pacific States Electric Company, on better selling.
- W. M. DEMING, general manager Journal of Electricity, on contractor-dealer problems.
- A. H. ELLIOT, secretary Pacific Division National Electric Supply Jobbers' Association, on credit building.
- M. A. DE LEW, executive committee California Association Electrical Contractors and Dealers, on the Goodwin Plan.
- D. J. BUTTS, Los Angeles manager Western Electric Company, on cooperation.
- H. H. COURTWRIGHT, general manager Valley Electric Supply Co., on vacuum cleaner cooperative campaigns.
- C. E. WIGGIN, Dunham, Carrigan & Hayden, on the electrical dealer.
- GOLDEN J. GUIVER, formerly secretary Utah Association Electrical Contractors and Dealers, on dealer problems.
- I. W. ALEXANDER, commercial engineer San Joaquin Light & Power Corporation, on commercial practice.
- C. F. BUTTE, general manager Butte Engineering Company, on contractor-dealer problems.
- W. R. PUTNAM, salesmanager of the Utah Power & Light Company, on accounting and selling practice.
- H. A. LEMMON, salesmanager of the Truckee River General Electric Company, on local advertising.
- F. D. WEBER, electrical engineer Oregon Insurance Rating Bureau, on new rules for installation.
- MARY F. PATTERSON, head of Household Art Department, University of California, on window decoration.
- W. R. HERSTEIN, general manager Electric Supply Company, on credit problems.
- ELMA STEINMANN, in charge of salesmanship at The Emporium, on better selling methods.
- A. D. McMULLEN, electrical dealer at Salt Lake City, on trade acceptances.
- GEORGE A. SCHNEIDER, Buffalo manager Western Electric Company, on technical contractor-dealer problems.
- L. C. MULLGARDT, architect at P.-P. I. E., on the electrical contractor and the architect.
- H. N. SESSIONS, commercial engineer Southern California Edison Company, on electrical refrigeration and salvage.
- A. H. HALLORAN, assistant business manager Journal of Electricity, on contractor-dealer problems.



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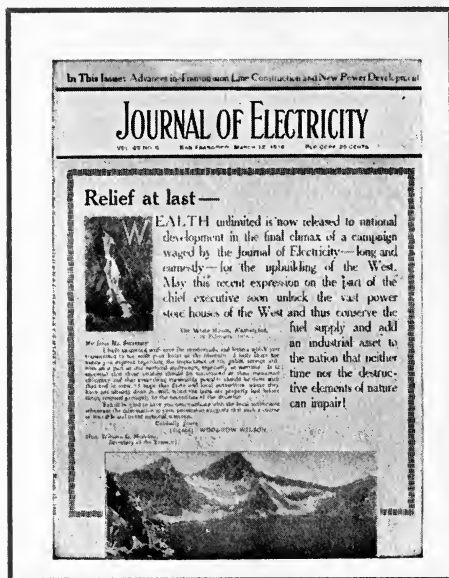
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